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350/507 359/368

POLYIMIDE CURE MONITOR

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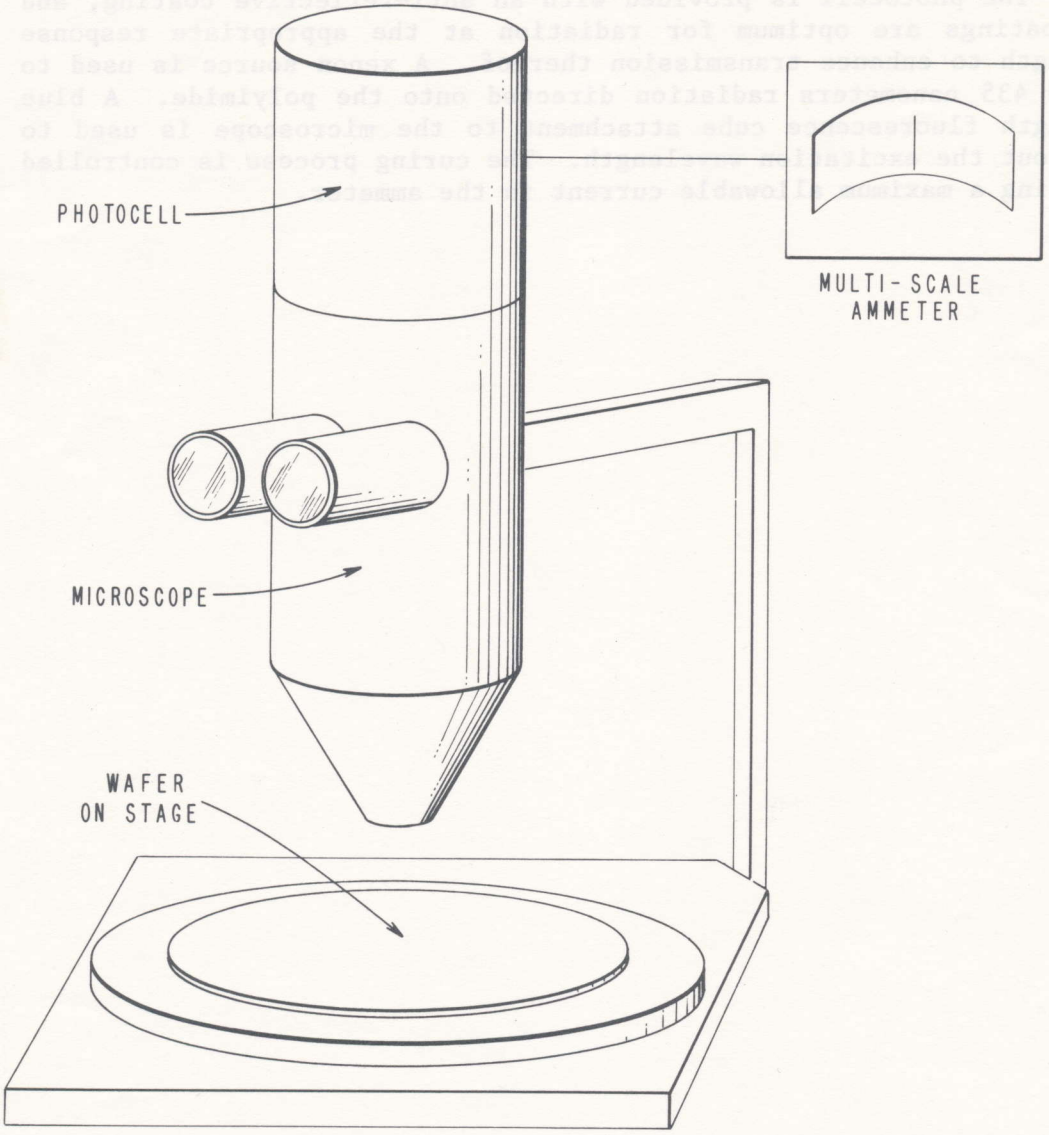

A monitor is provided which detects fluorescence as a measure of the percent cure of polyimide.

Polyimide fluoresces at an excitation wavelength of 435 nanometers, and the better the cure of the polyimide, the less it fluoresces.

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359/368

The monitor, illustrated in the figure, includes a photocell responsive to electromagnetic radiation at the response wavelength appropriate to the particular polyimide, usually in the orange-yellow portion of the spectrum, connected to a very sensitive multi-scale ammeter. The photocell is attached to a microscope which is used to align the photocell with the polyimide disposed on a semiconductor wafer. The photocell is provided with an anti-reflective coating, and lens coatings are optimum for radiation at the appropriate response wavelength to enhance transmission thereof. A xenon source is used to produce 435 nanometers radiation directed onto the polyimide. A blue wavelength fluorescence cube attachment to the microscope is used to filter out the excitation wavelength. The curing process is controlled by setting a maximum allowable current in the ammeter.